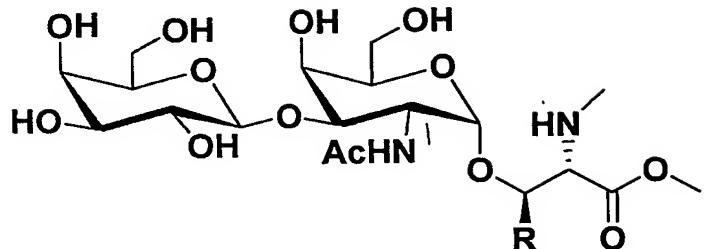
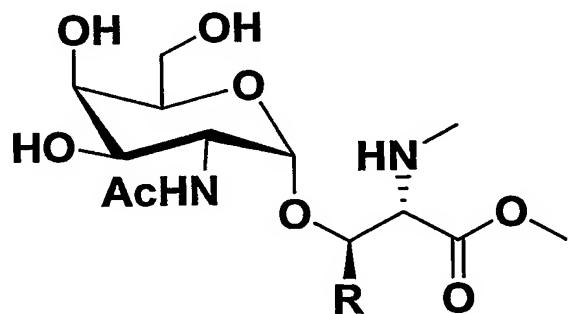


Figure 1 A

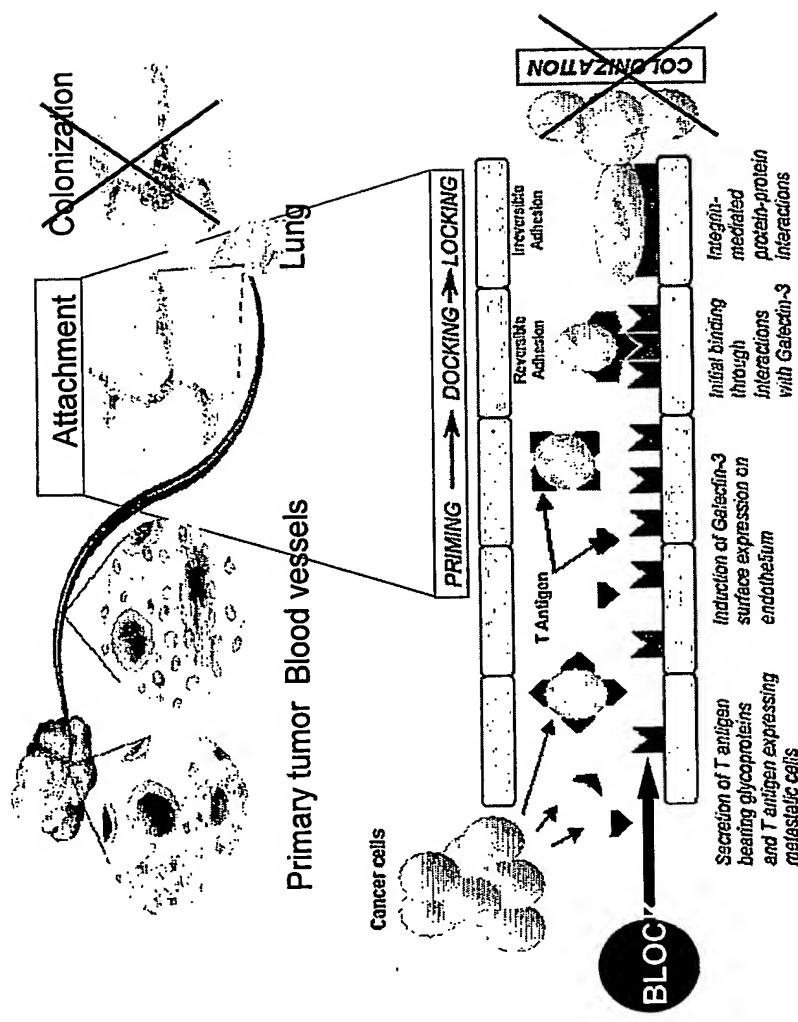
T (Thomsen-Friedenreich)
Gal β 1-3GalNAc α 1-OSer/Thr

Figure 1 B

T_n (T nouvelle)
GalNAc 1-OSer/Thr

FIGURE 2

T-Antigen and Metastasis



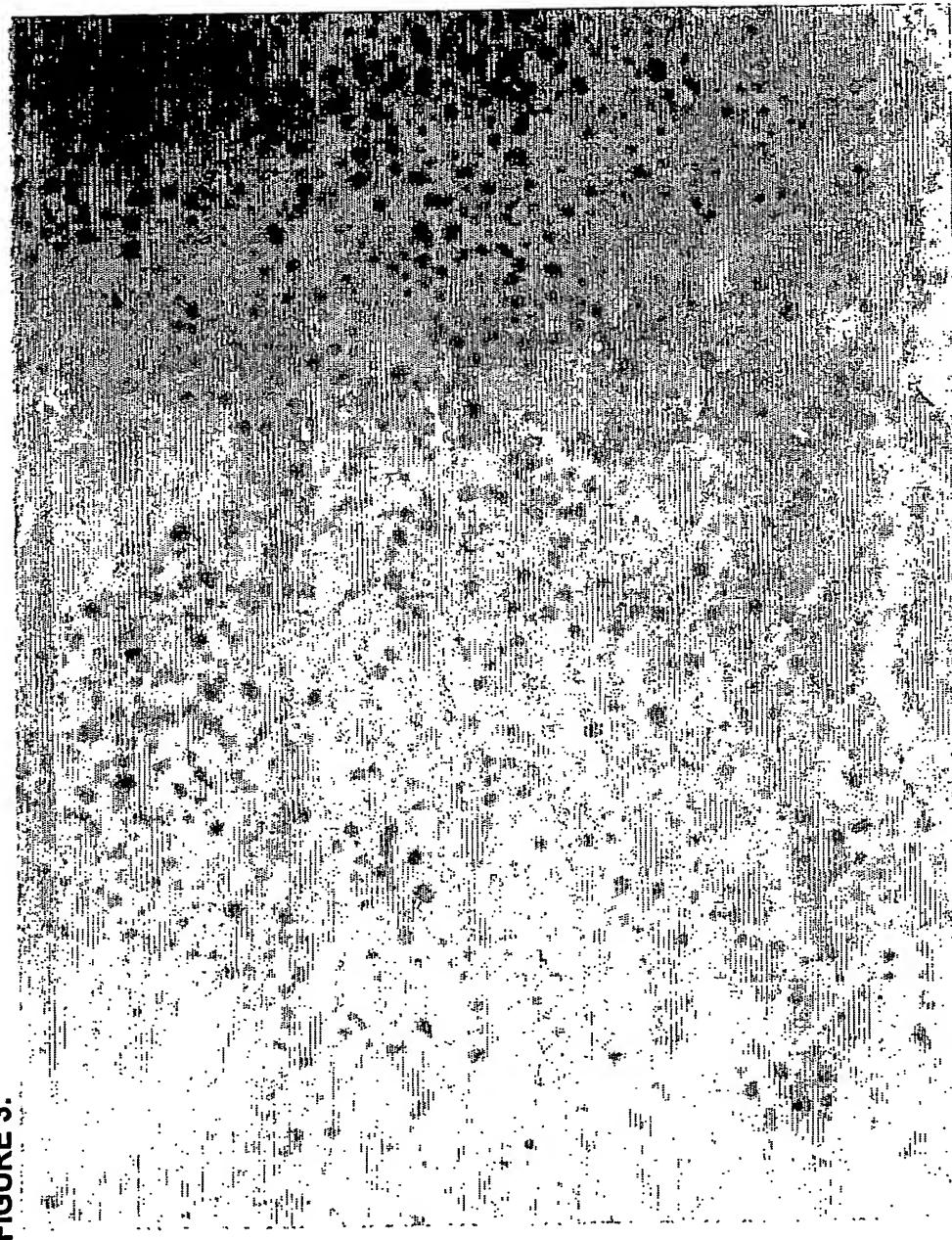
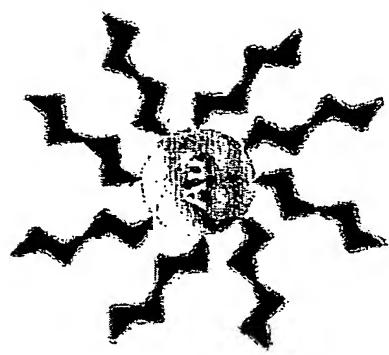


FIGURE 3:

FIGURE: 4
AQUEOUS PROCESS

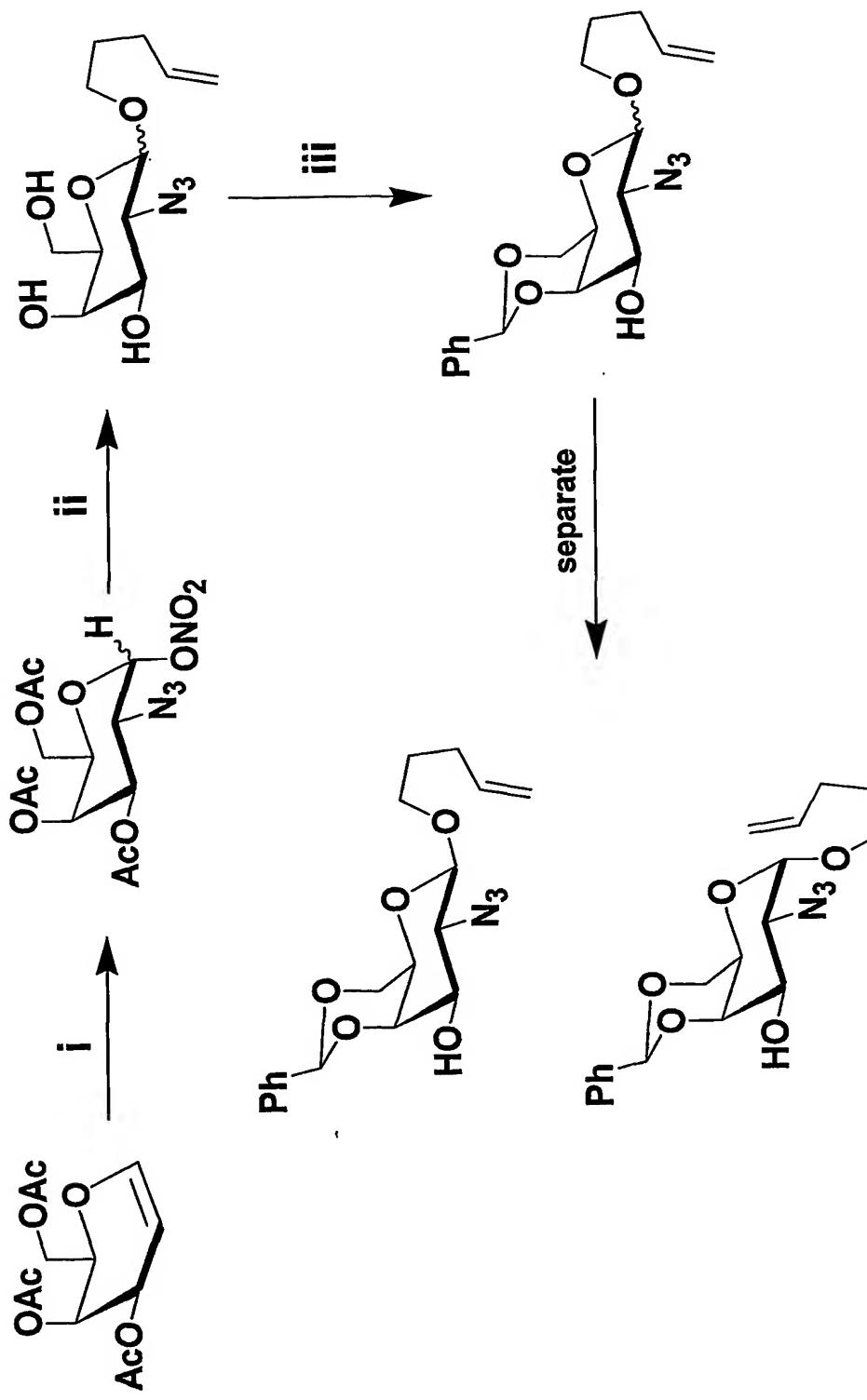


Reductant



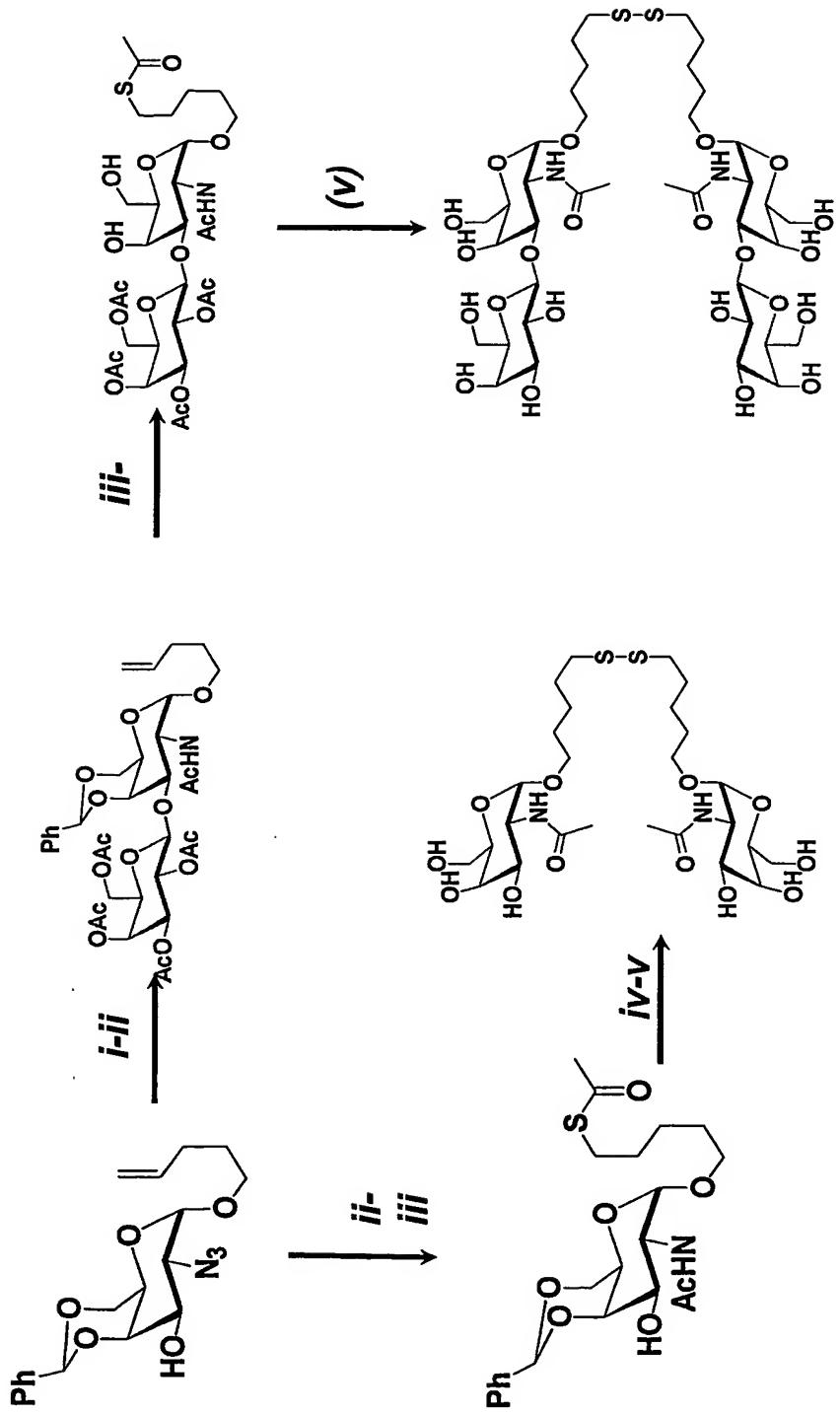
R = water soluble biomolecule

FIGURE: 5
T-ANTIGEN SYNTHESIS



Reaction conditions: (i) $\text{NaN}_3/\text{CAN}/\text{MeCN}$, 59-65%; (ii) $\text{Na}/\text{CH}_2=\text{CHCH}_2\text{CH}_2\text{OH}$, 99%; (iii) $\text{PhCH}(\text{OMe})_2/\text{PTSA}/\text{MeCN}$, 70%;

FIGURE: 6
PENTENYL GROUP DERIVATIZED FOR CONJUGATION



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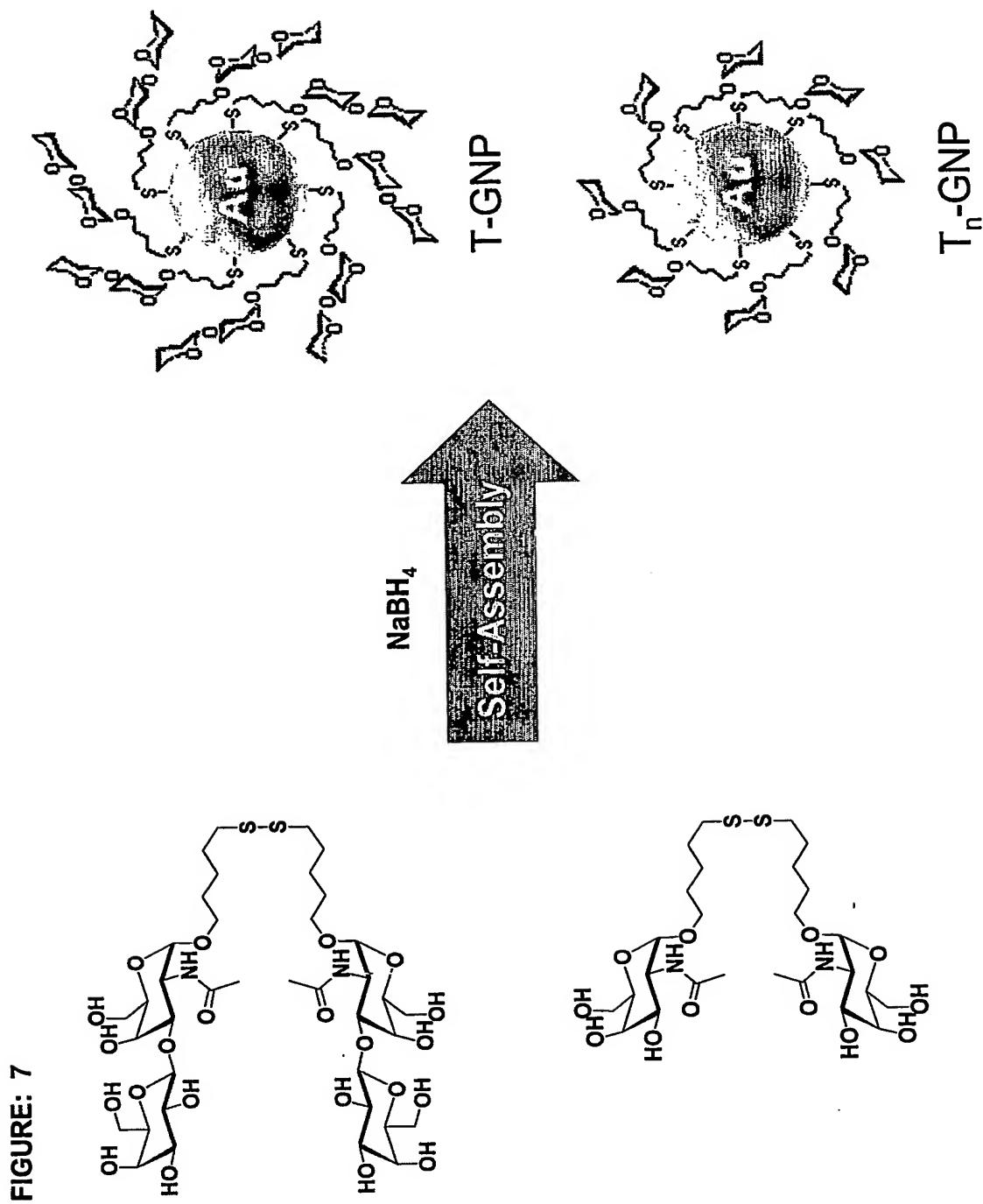
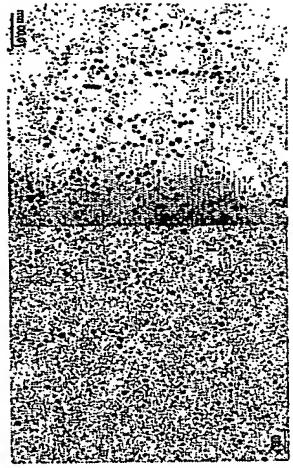
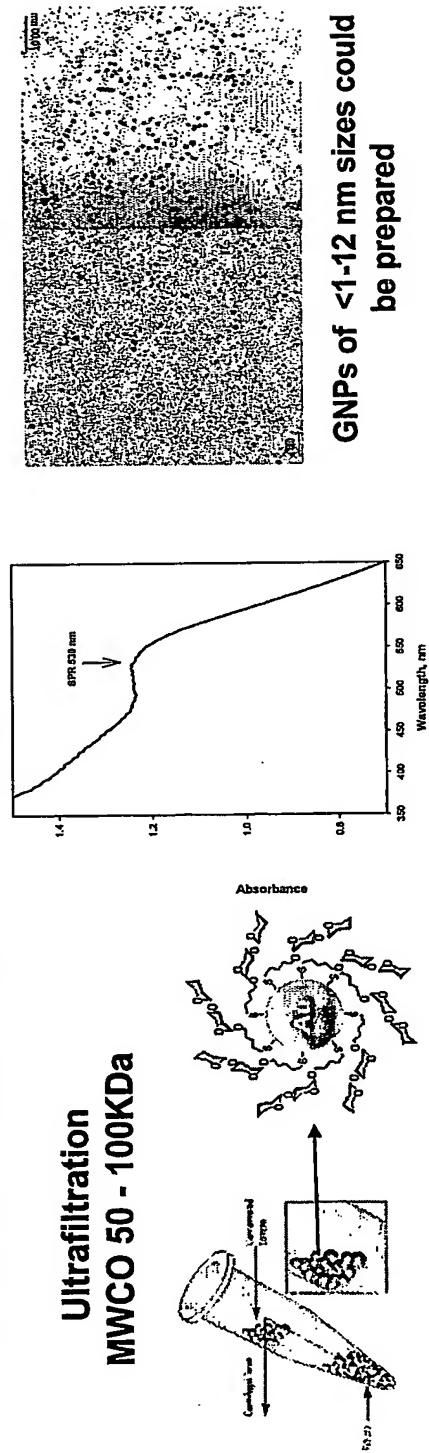


FIGURE: 8
PURIFICATION AND CHARACTERIZATION OF GNPs



GNPs of <1-12 nm sizes could be prepared

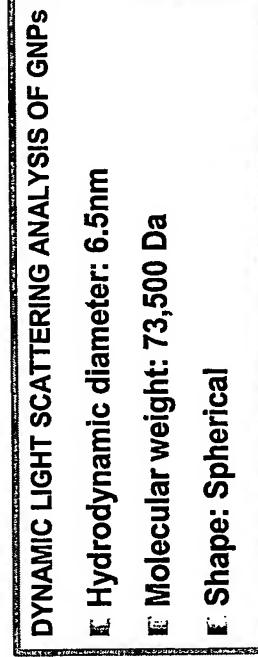
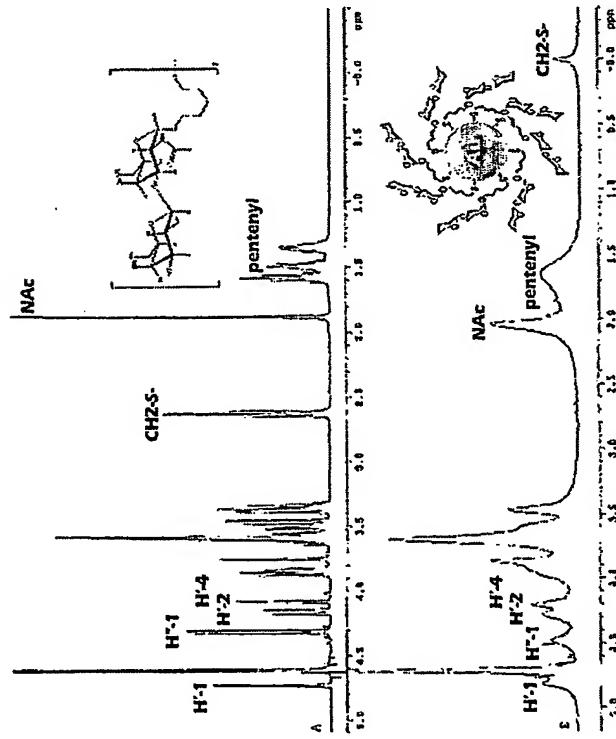
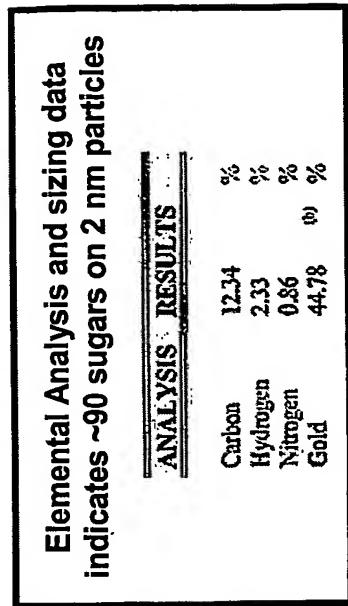


FIGURE: 9
SYNTHESIS OF PEG-LINKED T-ANTIGEN

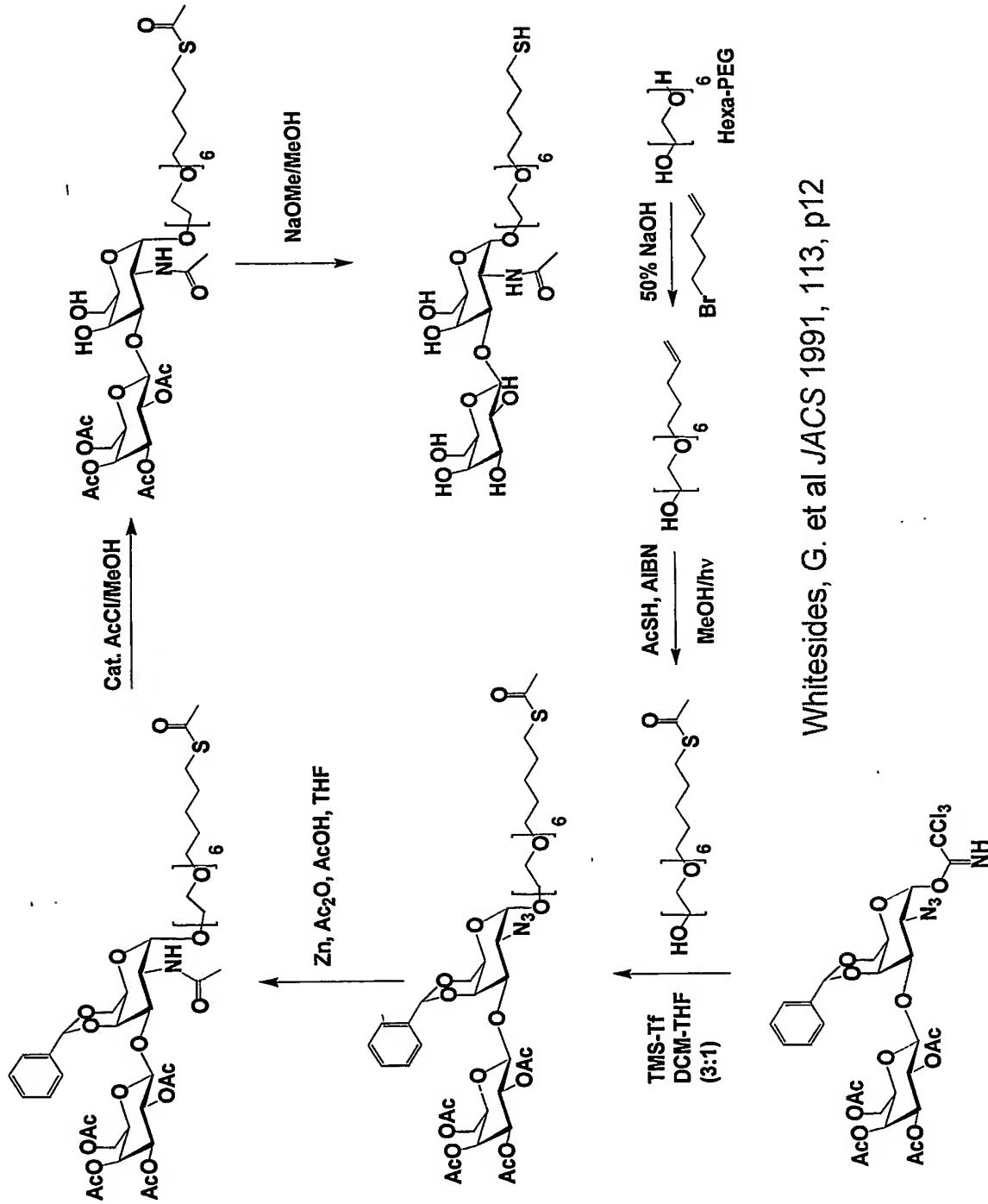


FIGURE: 10

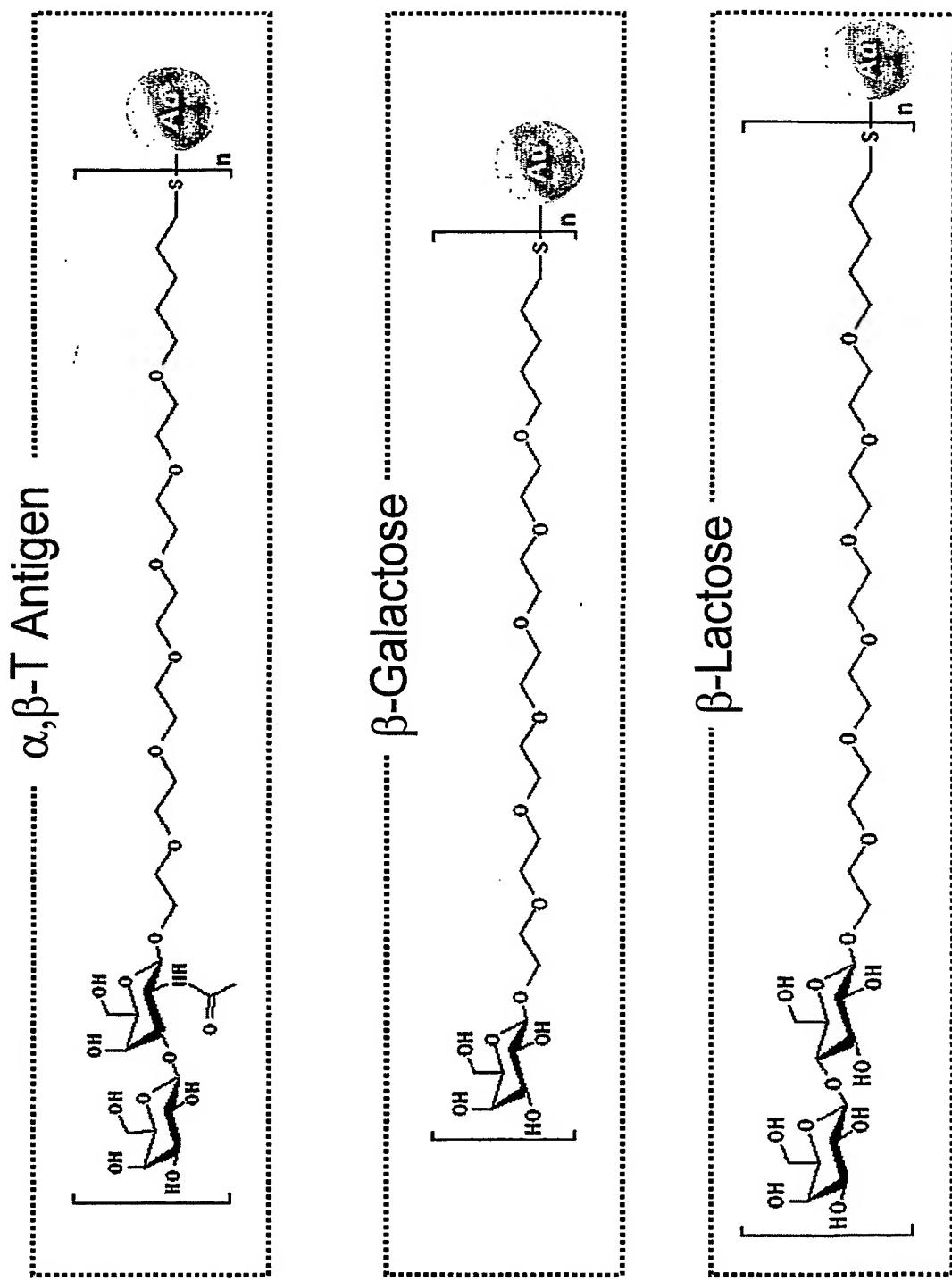


FIGURE: 11
IN VITRO BIOFUNCTIONALITY IS INTACT
Lectin Affinity Chromatography Assay shows stereospecificity of T-ag
gold- Peanut agglutinin interaction

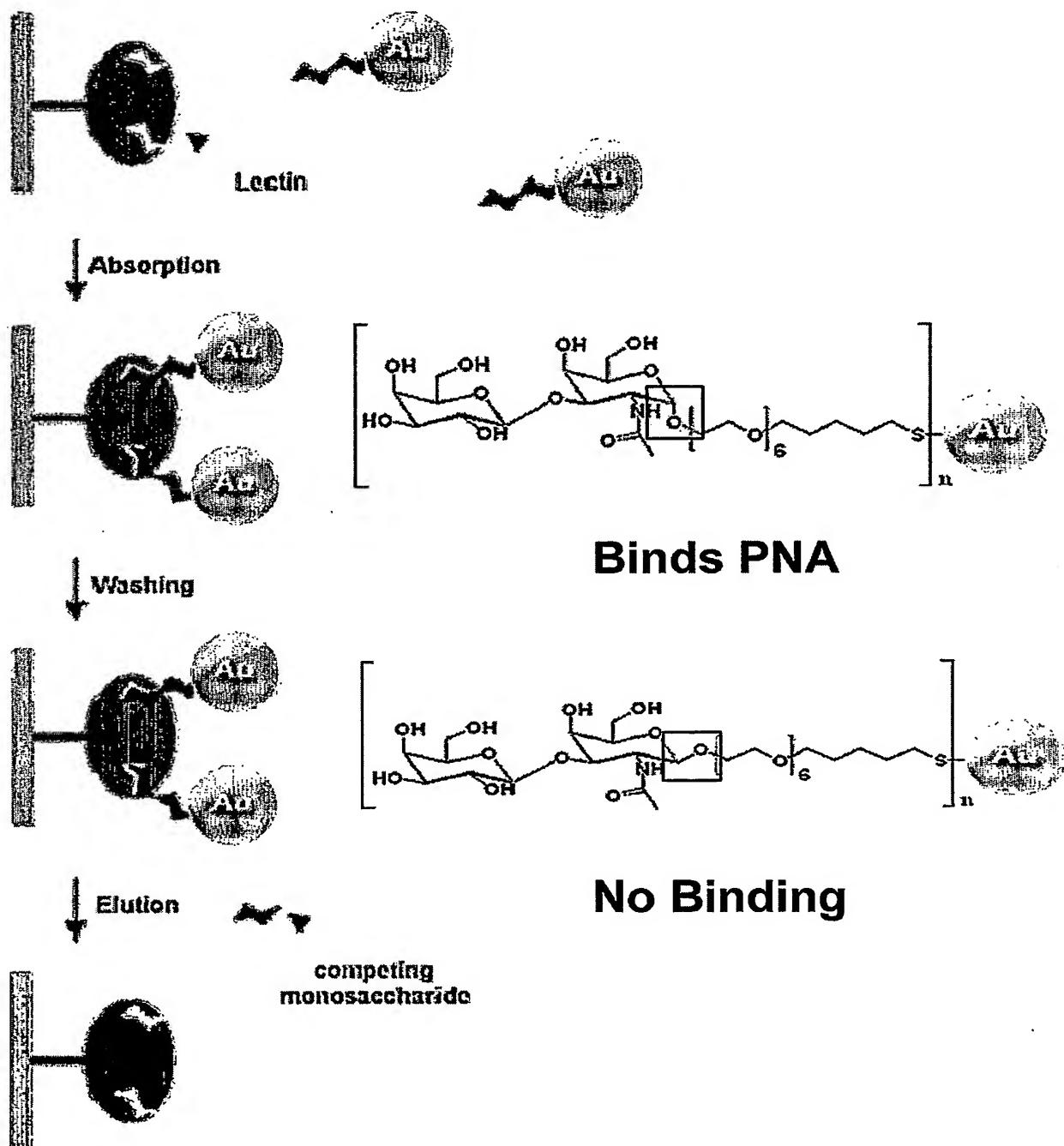
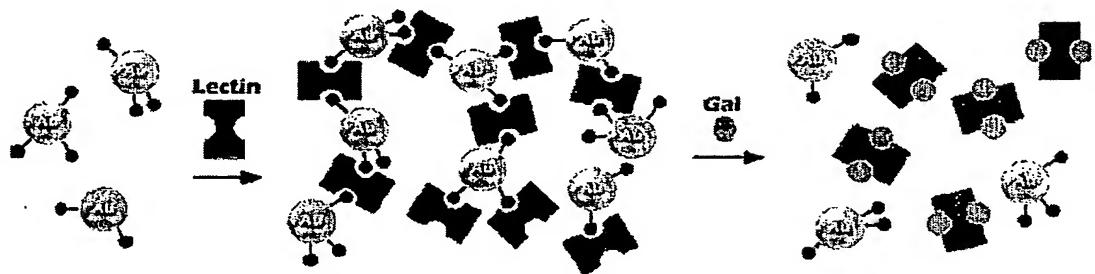
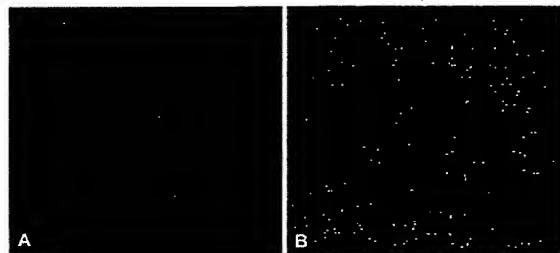


FIGURE: 12
IN VITRO BIOFUNCTIONALITY IS INTACT
Rhodamine-Lectin Agglutination Assays
PISUM SATIVUM (PSA) vs PEANUT AGGLUTININ (PNA)



Rhodamine-PNA

+



Rhodamine-PSA

+ 1

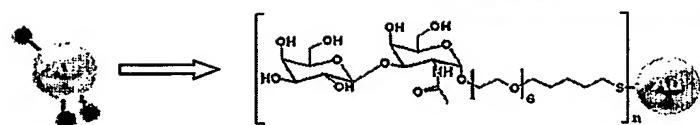
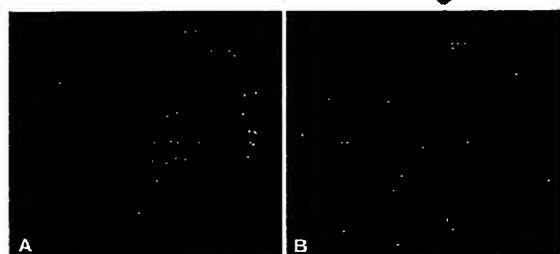


FIGURE: 13

PBS – Lungs

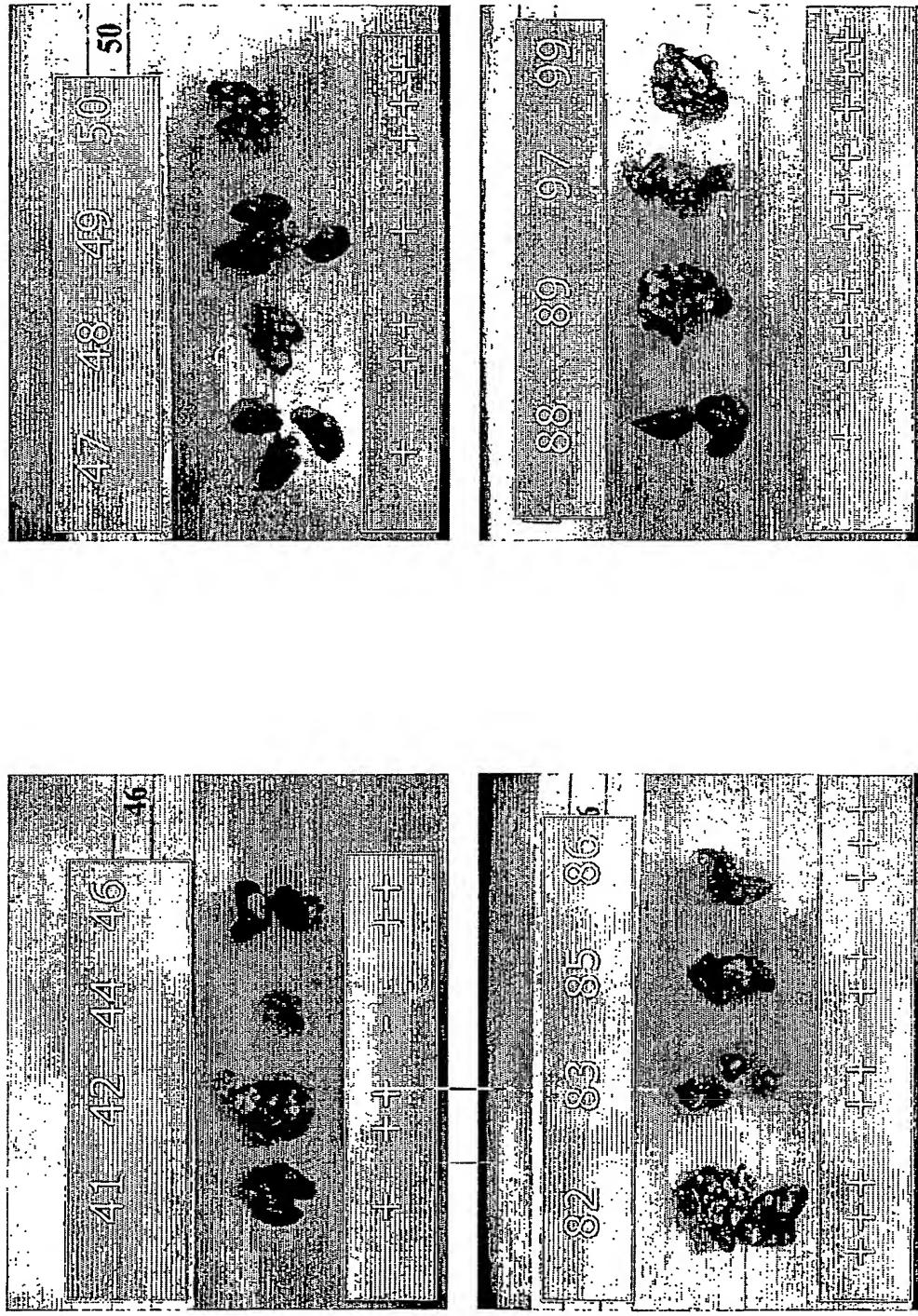


FIGURE: 14

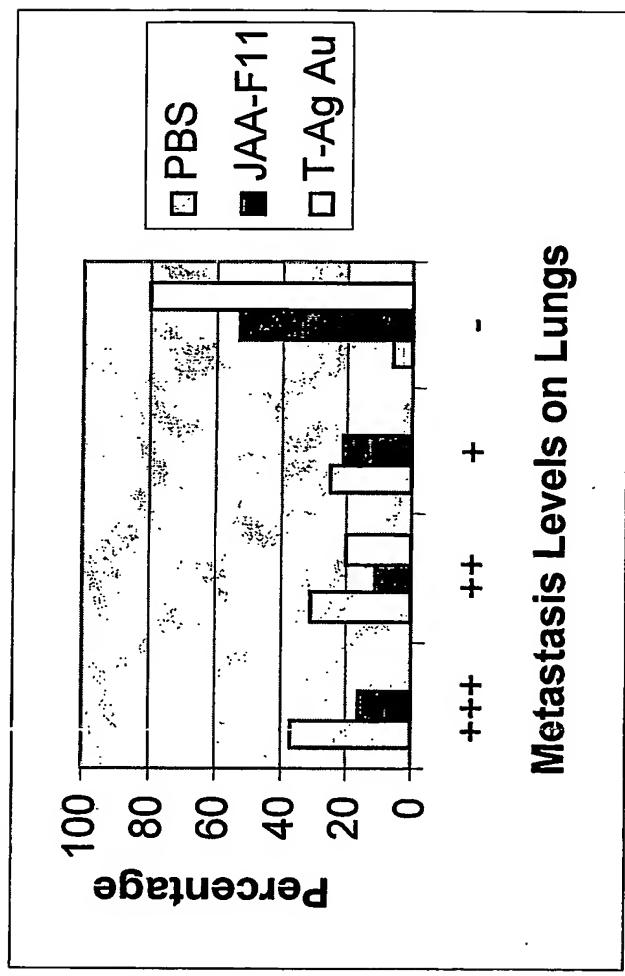
T Ag Gold Lungs

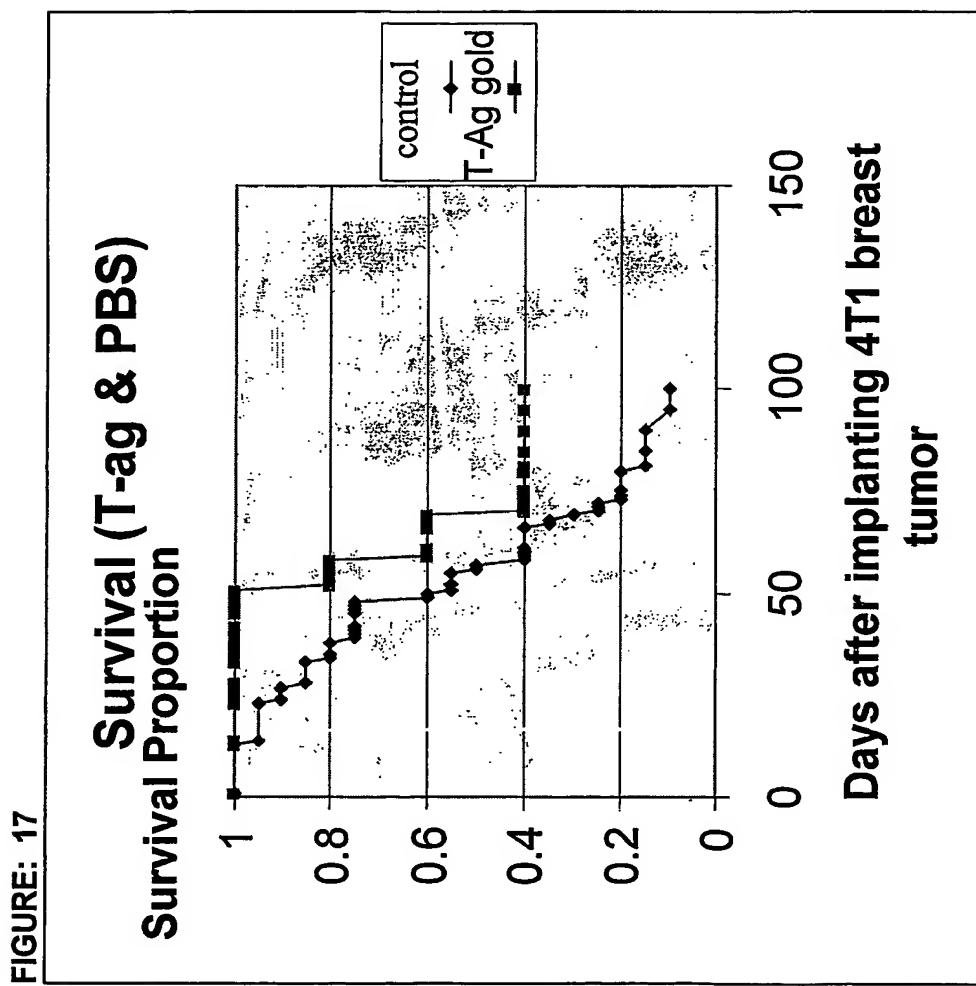


FIGURE: 15

Metastasis Levels on Lungs
(+++; 10~20, ++; 5~10, +; 0~5, -; 0)

	PBS	JAA-F11	T Ag Au
+++	6/16 (37.50%)	3/19 (15.79%)	0/3 (0%)
++	5/16 (31.25%)	2/19 (10.53%)	1/5 (20%)
+	4/16 (25.00%)	4/19 (21.05%)	0 (0%)
-	1/16 (6.25%)	10/19 (52.63%)	4/5 (80%)

FIGURE 16



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FIGURE 18

